NICE National Institute for Health and Care Excellence

NICE guideline

COVID-19 rapid guideline: managing suspected or confirmed pneumonia in adults in the community

NICE guideline

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Your responsibility

The recommendations in this guideline represent the view of NICE, arrived at after careful consideration of the evidence available. When exercising their judgement, professionals and practitioners are expected to take this guideline fully into account, alongside the individual needs, preferences and values of their patients or the people using their service. It is not mandatory to apply the recommendations, and the guideline does not override the responsibility to make decisions appropriate to the circumstances of the individual, in consultation with them and their families and carers or guardian.

Local commissioners and providers of healthcare have a responsibility to enable the guideline to be applied when individual professionals and people using services wish to use it. They should do so in the context of local and national priorities for funding and developing services, and in light of their duties to have due regard to the need to eliminate unlawful discrimination, to advance equality of opportunity and to reduce health inequalities. Nothing in this guideline should be interpreted in a way that would be inconsistent with complying with those duties.

Commissioners and providers have a responsibility to promote an environmentally sustainable health and care system and should assess and reduce the environmental impact of implementing NICE recommendations wherever possible.

Contents

This guideline replaces CG191.

Overview

The purpose of this guideline is to ensure the best treatment for adults with suspected or confirmed pneumonia in the community during the COVID-19 pandemic and best use of NHS resources. We have withdrawn our guideline on diagnosing and managing pneumonia in adults until further notice. For general advice on managing COVID-19 symptoms, see the NICE COVID-19 rapid guideline on managing symptoms (including at the end of life) in the community.

On 23 April 2020, we clarified the recommendations on antibiotic treatment for bacterial pneumonia in the community during the COVID-19 pandemic.

This guideline focuses on what you need to stop or start doing during the pandemic. Follow the usual professional guidelines, standards and laws (including those on equalities, safeguarding, communication and mental capacity), as described in making decisions using NICE guidelines.

This guideline is for:

- health and care practitioners
- health and care staff involved in planning and delivering services
- commissioners.

The recommendations bring together:

- existing national and international guidance and policies
- advice from specialists working in the NHS from across the UK. These include people with expertise and experience of treating patients for the specific health conditions covered by the guidance during the current COVID-19 pandemic.

We developed this guideline using the interim process and methods for developing rapid guidelines on COVID-19 in response to the rapidly evolving situation. We will review and update the recommendations as the knowledge base develops using the interim process and methods for guidelines developed in response to health and social care emergencies.

1 Communicating with patients and minimising infection risk

1.1 For patients with COVID-19 symptoms explain:

- that the typical symptoms are cough, fever and loss of sense of smell or taste, but they may also have breathlessness (which may cause anxiety), delirium (which may cause agitation), fatigue, headache, muscle aches and sore throat
- that they should follow the UK government guidance on self-isolation and the UK government guidance on protecting vulnerable people
- that if the symptoms are mild they are likely to feel much better in a week
- who to contact if their symptoms (such as breathlessness) get worse; see NHS 111 online for details on who to contact. **[amended 26 May 2020]**

1.2 Support patients' mental wellbeing, signposting to charities and support groups (including NHS volunteers) where available, to help alleviate any anxiety and fear they may have about COVID-19.

1.3 Minimise face-to-face contact by:

- offering telephone or video consultations (see the BMJ guidance on COVID-19: a remote assessment in primary care for a useful guide, including a visual summary for remote consultations)
- cutting non-essential face-to-face follow-up
- using electronic rather than paper prescriptions
- using different methods to deliver medicines to patients, for example pharmacy deliveries, postal services, NHS volunteers or drive-through pick-up points.

1.4 For patients with known or suspected COVID-19, follow appropriate UK government guidance on infection prevention and control. This includes recommendations on patient transfers and on decontaminating reusable equipment between each patient and after patient use.

1.5 If a patient shows typical COVID-19 symptoms, follow UK government guidance on investigation and initial clinical management of possible cases. This includes information on testing and isolating patients.

2 Treatment and care planning

2.1 When possible, discuss the risks, benefits and likely outcomes of treatment options with patients with COVID-19, and their families and carers. This will help them make informed decisions about their treatment goals and wishes, including treatment escalation plans where appropriate.

2.2 Find out if patients have advance care plans or advance decisions to refuse treatment, including 'do not attempt cardiopulmonary resuscitation' decisions.

2.3 Use decision support tools (when available). Bear in mind that these discussions may need to take place remotely (see recommendation 1.3). Document discussions and decisions clearly and take account of these in planning care.

3 Diagnosis and assessment

Diagnosing pneumonia

3.1 During the COVID-19 pandemic, face to face examination of patients may not be possible. Advice on how to conduct a remote consultation can be found in BMJ guidance on COVID-19: a remote assessment in primary care, which includes a visual summary for remote consultations.

3.2 Where physical examination and other ways of making an objective diagnosis are not possible, the clinical diagnosis of community-acquired pneumonia of any cause in an adult can be informed by other clinical signs or symptoms such as:

- temperature above 38°C
- respiratory rate above 20 breaths per minute
- heart rate above 100 beats per minute
- new confusion

(see the CEBM's rapid diagnosis of community-acquired pneumonia for clinicians).

3.3 Assessing shortness of breath (dyspnoea) is important, but may be difficult via remote consultation. Tools such as the Medical Research Council's dyspnoea scale or the CEBM's review of ways of assessing dyspnoea (breathlessness) by telephone or video can be useful.

Assessing severity

3.4 Use the following symptoms and signs to help identify patients with more severe illness to help make decisions about hospital admission:

- severe shortness of breath at rest or difficulty breathing
- coughing up blood
- blue lips or face

- feeling cold and clammy with pale or mottled skin
- collapse or fainting (syncope)
- new confusion
- becoming difficult to rouse
- little or no urine output.

Use of assessment tools

3.5 Be aware that the CRB65 tool has not been validated in people with COVID-19. It also requires blood pressure measurement, which may be difficult or undesirable during the COVID-19 pandemic and risks cross-contamination (see recommendation 1.4).

3.6 Where pulse oximetry is available use oxygen saturation levels below 92% (below 88% in people with COPD) on room air at rest to identify seriously ill patients. See NHS England's guide to pulse oximetry to detect early deterioration of patients with COVID-19 in primary and community care settings.

While the ROTH tool has been suggested as an alternative where pulse oximetry is not available, its use has not been validated in people with COVID-19 and there are concerns that it may underestimate illness severity (see the CEBM's rapid review of the use of the Roth score in remote assessment). **[amended 2 September 2020]**

3.7 Use of the NEWS2 tool in the community for predicting the risk of clinical deterioration may be useful. However, a face-to-face consultation should not be arranged solely to calculate a NEWS2 score.

Differentiating viral COVID-19 pneumonia from bacterial pneumonia

It is difficult to determine whether pneumonia has a COVID-19 viral cause or a bacterial cause (either primary or secondary to COVID-19) in primary care, particularly during remote consultations. However, as COVID-19 becomes more prevalent in the community, patients presenting with pneumonia symptoms are more likely to have a COVID-19 viral pneumonia than a

community-acquired bacterial pneumonia.

3.8 COVID-19 viral pneumonia may be more likely if the patient:

- presents with a history of typical COVID-19 symptoms for about a week
- has severe muscle pain (myalgia)
- has loss of sense of smell (anosmia)
- is breathless but has no pleuritic pain
- has a history of exposure to known or suspected COVID-19, such as a household or workplace contact.

3.9 A bacterial cause of pneumonia may be more likely if the patient:

- becomes rapidly unwell after only a few days of symptoms
- does not have a history of typical COVID-19 symptoms
- has pleuritic pain
- has purulent sputum.

4 Managing suspected or confirmed pneumonia

Deciding about hospital admission

4.1 Be aware that older people, or those with comorbidities, frailty, impaired immunity or a reduced ability to cough and clear secretions, are more likely to develop severe pneumonia. Because this can lead to respiratory failure and death, hospital admission would have been the usual recommendation for these people before the COVID-19 pandemic.

4.2 When making decisions about hospital admission, take into account:

- the severity of the pneumonia, including symptoms and signs of more severe illness (see recommendation 3.4)
- the benefits, risks and disadvantages of hospital admission
- the care that can be offered in hospital compared with at home
- the patient's wishes and care plans (see the section on treatment and care planning)
- service delivery issues and local NHS resources during the COVID-19 pandemic.

4.3 Explain that:

- the benefits of hospital admission include improved diagnostic tests (chest X-ray, microbiological tests and blood tests) and respiratory support
- the risks and disadvantages of hospital admission may include spreading or catching COVID-19 and loss of contact with families. **[amended 19 August 2020]**

Managing breathlessness

4.4 Be aware that severe breathlessness often causes anxiety, which can then increase breathlessness further. See the NICE COVID-19 rapid guideline on managing symptoms (including at the end of life) in the community for advice on how to manage breathlessness.

Antibiotic treatment

4.5 As COVID-19 pneumonia is caused by a virus, antibiotics are ineffective.

4.6 Do not offer an antibiotic for treatment or prevention of pneumonia if:

- COVID-19 is likely to be the cause and
- symptoms are mild.

Inappropriate antibiotic use may reduce availability if used indiscriminately, and broad-spectrum antibiotics in particular may lead to *Clostridioides difficile* infection and antimicrobial resistance.

4.7 Offer an oral antibiotic for treatment of pneumonia in people who can or wish to be treated in the community if:

- the likely cause is bacterial or
- it is unclear whether the cause is bacterial or viral and symptoms are more concerning or
- they are at high risk of complications because, for example, they are older or frail, or have a pre-existing comorbidity such as immunosuppression or significant heart or lung disease (for example bronchiectasis or COPD), or have a history of severe illness following previous lung infection.

4.8 When starting antibiotic treatment, the first-choice oral antibiotic is:

- doxycycline 200 mg on the first day, then 100 mg once a day for 4 days (5-day course in total); doxycycline should not be used in pregnancy
- alternative: amoxicillin 500 mg 3 times a day for 5 days.

Doxycycline is preferred because it has a broader spectrum of cover than amoxicillin, particularly against *Mycoplasma pneumoniae* and *Staphylococcus aureus*, which are more likely to be secondary bacterial causes of pneumonia during the COVID-19 pandemic. **[amended 23 April 2020]**

4.9 Do not routinely use dual antibiotics.

4.10 For choice of antibiotics in penicillin allergy, pregnancy and more severe disease, or if atypical pathogens are likely, see the recommendations on choice of antibiotic in the NICE antimicrobial prescribing guideline on community-acquired pneumonia.

4.11 Start antibiotic treatment as soon as possible, taking into account any different methods needed to deliver medicines to patients during the COVID-19 pandemic (see recommendation 1.3).

Oral corticosteroids

4.12 Do not routinely offer a corticosteroid unless the patient has other conditions for which these are indicated, such as asthma or COPD.

Safety netting and review

4.13 Advise patients to seek medical help without delay if their symptoms do not improve as expected or worsen rapidly or significantly, whether they are taking an antibiotic or not (see recommendation 1.1 and recommendation 3.4).

4.14 On reassessment, reconsider whether the patient has symptoms and signs of more severe illness (see recommendation 3.4) and whether to admit to hospital (see recommendation 4.2).

Update information

23 April 2020: We amended recommendation 4.8 to clarify that the doxycycline treatment course is 5 days in total, and that doxycycline is the first-choice antibiotic for bacterial pneumonia during the COVID-19 pandemic because it offers broader-spectrum cover than amoxicillin.

Minor changes since publication

2 September 2020: We added a link to NHS England's guide to pulse oximetry to recommendation 3.6.

19 August 2020: We made a small change to the second bullet point of recommendation 4.3 to indicate that the disadvantages of hospital admission are uncertain.

26 May 2020: We updated the list of symptoms in recommendation 1.1 to include loss of smell or taste in line with current government advice.

4 May 2020: We removed the cross-reference to the NICE guideline on pneumonia in adults from recommendation 3.5 because the recommendations in that guideline do not apply during the COVID-19 pandemic.

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